

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MICHIGAN**

SIERRA CLUB,

Plaintiff,

V.

CITY OF HOLLAND and HOLLAND
BOARD OF PUBLIC WORKS,

Defendants.

Case No. 1:08-cv-1183
Hon. Paul L. Maloney

**DECLARATION OF LESTER PINES IN SUPPORT OF PLAINTIFF’S MOTION
FOR SUMMARY JUDGMENT REGARDING EMISSION INCREASES FROM
FOUR MODIFICATIONS MADE TO THE DE YOUNG PLANT UNDER THE
“ACTUAL TO POTENTIAL” TEST**

EXHIBIT 1

**Copy of Defendants Responses to Plaintiff's
First Requests for Admission**

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MICHIGAN**

SIERRA CLUB.

Plaintiff,

V.

CITY OF HOLLAND, MICHIGAN, and
HOLLAND BOARD OF PUBLIC WORKS

Defendants.

Civil Action No. 1:08-cv-1183

Paul L. Maloney

Chief U.S. District Judge

HOLLAND BOARD OF PUBLIC WORKS RESPONSES TO PLAINTIFF'S FIRST REQUESTS FOR ADMISSION

REQUEST FOR ADMISSION NO. 1:

The Holland Board of Public Works has not submitted any reports pursuant to 40 C.F.R. § 52.21(b)(21)(v), as in effect between July 21, 1992 and March 3, 2003, related to any physical or operational change at the James DeYoung Station.

RESPONSE TO REQUEST FOR ADMISSION NO. 1:

Admit.

REQUEST FOR ADMISSION NO. 2:

The Holland Board of Public Works has not submitted any reports pursuant to Mich. Admin. Code R. 336.2818(3) for any project at the James DeYoung Station.

RESPONSE TO REQUEST FOR ADMISSION NO. 2:

Admit.

REQUEST FOR ADMISSION NO. 3:

The Holland Board of Public Works has not documented and maintained the records set forth in 40 C.F.R. § 52.21(r)(6)(i), as adopted on December 31, 2002, for any project at the James DeYoung Station.

RESPONSE TO REQUEST FOR ADMISSION NO. 3:

Deny.

REQUEST FOR ADMISSION NO. 4:

The Holland Board of Public Works has not conducted any analysis pursuant to 40 C.F.R. § 52.21(b)(41) (2003) or Mich. Admin. Code R. 336.2801(II) for any project at the James De Young Station.

RESPONSE TO REQUEST FOR ADMISSION NO. 4:

Deny.

Dated: June 1, 2010

s/ Cary Perlman
One of the Attorneys for Defendants

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EXHIBIT 2

**Copy of Chapter 4 from Michigan Department of Environmental Quality,
Air Quality Division: A Practical Guide to Prevention of Significant Deterioration,
October 2003.**

PSD

Workbook

A Practical Guide to Prevention of Significant Deterioration



Michigan Department of Environmental Quality
Air Quality Division

October 2003

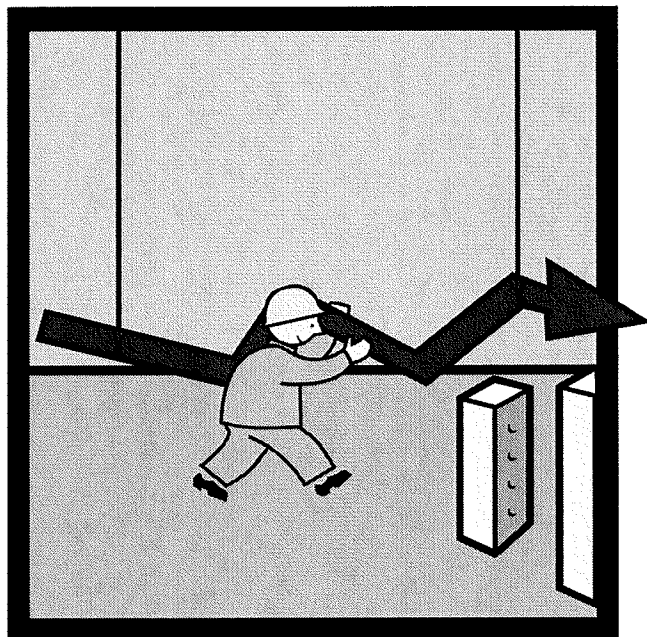
Jennifer M. Granholm, Governor
Steven E. Chester, Director
www.michigan.gov/deq
800-662-9278

CHAPTER 4

APPLICABILITY TESTS BASED ON EMISSIONS CHANGES

In This Chapter:

- Actual to Potential Test
- Actual to Projected Test
- Recordkeeping and Reporting Requirements
- Permit Content
- Examples



CHAPTER 4: APPLICABILITY TESTS BASED ON EMISSIONS CHANGES

Having established the methodology for determining Baseline Actual Emissions in Chapter 3, we are ready to take on the two most common PSD applicability determinations – the Actual to Potential Emissions Test (A2P) and the Actual to Projected Actual Emissions Test (A2A).

Other applicability tests exist for special categories of sources. The Clean Unit test applies to changes at emission units that have been designated as Clean Units. Clean Units will be covered in Chapter 5. For facilities operating under a Plantwide Applicability Limit (PAL) PSD does not apply at all unless the facility wishes to increase its emissions above the PAL. PAL's will be covered in Chapter 6.

As outlined in Chapter 2, PSD applicability for changes that involve only new emission units is determined using the A2P. For changes that involve only existing emission units, PSD applicability is determined using either the A2A or the A2P. PSD applicability for changes that involve some new and some existing emission units is determined using the hybrid test. We will cover these three applicability tests in order – Actual to Potential (A2P), Actual to Projected Actual (A2A) and Hybrid.

Actual to Potential Emissions Test

The Actual to Potential Emissions Test (A2P) can be used for projects involving new or existing emission units. For new emission units, it is mandated as the only method for determining PSD applicability. The A2P involves comparing the potential to emit of each emission unit affected by a project to its BAE. The A2P is used to determine the emissions increase from the proposed project – not the net emission increase. It is only used for the first half of the two-step PSD applicability determination.

Helpful Hint:

Be sure to carefully define the project. Identify ALL affected emission units.

Potential to emit is defined in 40 CFR 52.21 (b)(4) as:

The maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

According to this definition, an emission unit's permit-limited emissions (i.e., allowable emissions) after the proposed project represent its potential to emit. Therefore, many facilities choose to accept permit limits in order to avoid becoming subject to PSD. Permit limits that accomplish this process of limiting out of PSD are called "Synthetic Minor" limits. Projects that are limited out of PSD applicability are also referred to as

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"Synthetic Minor." Future changes to a Synthetic Minor source or project may result in a re-evaluation of the original PSD applicability determination.

If the sum of the post-project potential emissions for all affected emission units exceeds the BAE by greater than the appropriate PSD applicability threshold, the proposed project may be subject to PSD depending on the magnitude of the net emissions increase. If the potential emissions of all affected emission units after the proposed project exceed the BAE by less than the appropriate applicability threshold, no further evaluation is necessary – the project is not subject to PSD.

The A2P is the traditional applicability determination method used by all sources prior to the March 3, 2003 NSR reforms. This method, when applied to existing emission units tends to overstate the magnitude of the emission increase associated with a particular project. The permitted, allowable emissions after a project do not always represent the emissions increase that results from that change. It often represents the increase from that change plus any production capacity that was not being used during the baseline period.

For example, consider a natural gas fired boiler that emits nitrogen oxides (NO_x) at 75 pounds per hour and has consistently operated 7200 hours per year. This boiler will generate NO_x emissions of 270 tons per year. The boiler's permit limits emissions to the equivalent of 8760 hours per year, or 328.5 tons per year. If a project were undertaken that would increase the boiler's emission rate from 75 to 80 pounds per hour, the potential emissions would increase from 328.5 to 350.4 tons per year.

For this project, the A2P would measure the increase as 350.4 tons per year (potential) minus 270 tons per year (BAE) or 80.4 tons per year. However, because the increase in hourly emissions will not automatically result in an increased boiler utilization, most of the calculated difference between potential emissions and BAE result from unused capacity utilization (i.e., operation beyond 7200 hours per year).

This aspect of the A2P has frustrated industry for many years. Even small changes can be counted as major modifications and subject to PSD. Therefore, in its reforms to NSR, USEPA has developed another applicability test - the Actual to Projected Actual Emissions Test (A2A).

Actual to Projected Actual Emissions Test**Do not Forget:**

To properly define the project. Identify ALL affected emission units.

The Actual to Projected Actual Emissions Test (A2A) is a more complicated evaluation than the A2P. The A2A was developed in an effort to evaluate PSD applicability based only on the emission increases that are attributable to a proposed project. Other increases, such as emission increases due to changes in business demand (i.e., capacity utilization) unrelated to the proposed project, are not counted. However, increases in capacity utilization that will result from the proposed project are counted. For example, when a proposed project is necessary in order to

handle a projected increase in business demand, then the emissions associated with that increased capacity utilization are attributed to the project.

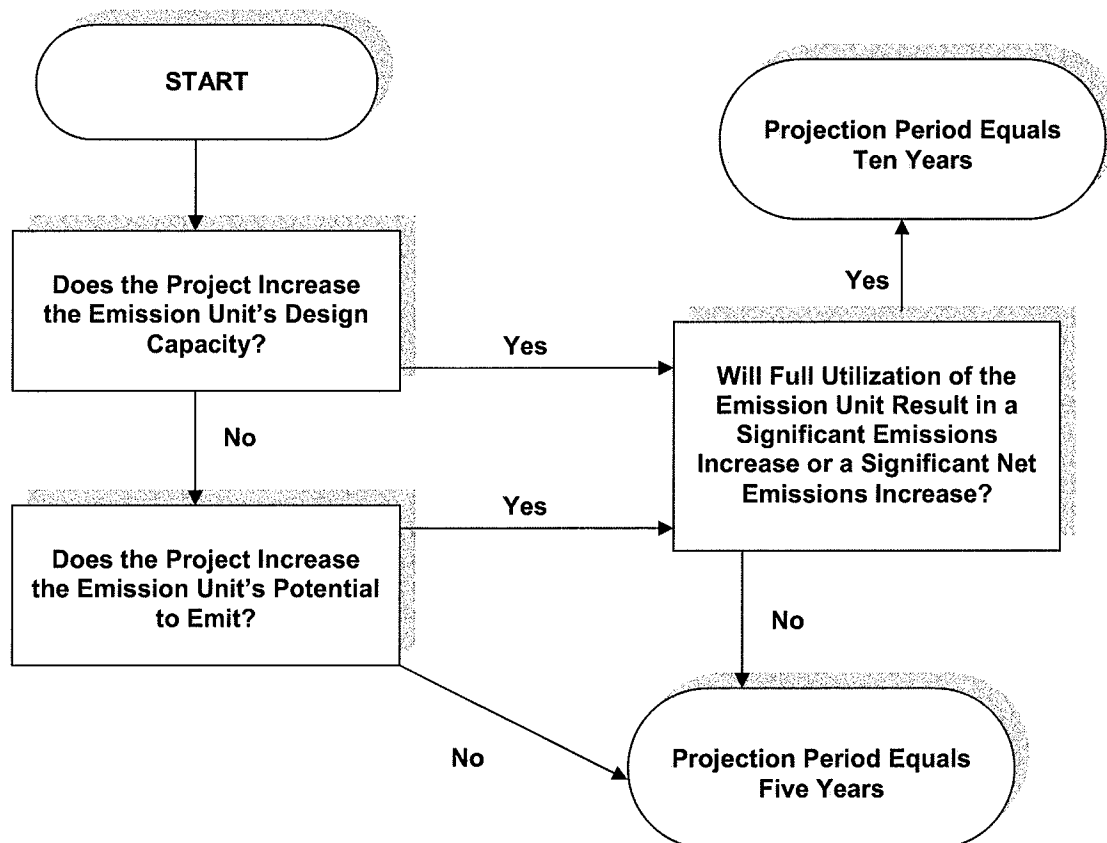
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The A2A involves comparing projected actual emissions from all affected emission units with the BAE from the affected emission units. The A2A cannot be used with new emission units. Because this applicability test involves estimates of future business activity, it requires a substantial amount of documentation. The future estimates must be available in public documents, or confidential business information, on which the facility is basing its business decisions. Future estimates generated for the purposes of the applicability test are not acceptable.

The procedures for determining projected actual emissions are set forth in the PSD regulations under 40 CFR 52.21 (b)(41).

Step 1 – Determine the projection period

The projection period begins on the date the affected emission unit resumes regular operation after completion of the proposed project. Typically, the projection period must encompass the first five years after resuming regular operation. Under certain circumstances, the projection period will encompass the first ten years after resuming regular operations. The following flow chart outlines the decision-making process to determine whether the projection period will be five or ten years:



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Resuming regular operation means that construction and initial shakedown of the modified emission unit has been completed. The PSD regulations, in general, allow 180 days to be counted as the initial shakedown period.

Step 2 – Develop an initial projection

The actual annual emissions associated with the projected level of business activity in each year of the projection period must be determined. The projected level of business activity must be based on existing, available information as described above. Documentation must be made available to the MDEQ to support any projection.

Projections may be based on:

- Historical operating data (i.e., trends). Documentation must be provided to support the projected continuation of any trend throughout the projection period.
- The company's own representations. Existing available documentation must be provided demonstrating that the company has made such representations to the public, to its shareholders, to its board or to its parent company.
- The company's expected business activity and the company's highest projections of business activity. As before, existing available documentation must be provided demonstrating that the company has established such expectations and made such projections for business purposes.
- The company's filings with state and federal regulatory authorities. Copies of such filings must be provided.
- Any other enforceable documentation that may include projections of business activity during the projection period (e.g., compliance plans).

The projection is an estimate of business activity. Once established, the actual annual emissions that correspond to that level of business activity must be calculated. The absence of adequate documentation will nullify the projection. In such a situation, the A2A will not be allowed and the facility must use the A2P.

Step 3 – Adjustments to the initial projection

Fugitive emissions, if they can be quantified, must be included in the projected actual emissions. Additionally, emissions associated with startups, shutdowns and malfunctions must be included in the projected actual emissions.

Step 4 – Excluded emissions

Emissions increases that are not related to the specific proposed project may be excluded from the projected actual emissions. These emissions can be identified as those that:

**Could have been accommodated during
the selected 24-month baseline period by
the pre-modified emission units**

And

Are not related to the proposed project

Emissions that could have been accommodated are not the baseline period allowable emissions for the affected emission units. They are the level of emissions from the pre-modified emission units operating at the projected level of business activity. Any permit or regulatory restrictions on the operation of the affected emission units must be taken into consideration when determining excludable emissions.

Determining whether certain emissions increases are related to the proposed project will be a case-by-case determination. For example, if a widget manufacturing process is being modified to accommodate the production of gadgets as well as widgets, then any projected emissions that will result from the continued manufacture of widgets are not related to the modification – they would have occurred anyway.

Step 5 – Determine projected emissions increase

Projections must be developed for each year, not necessarily a calendar year, during the projection period. Each of these projected levels of actual annual emissions must be compared with the greater of: the excludable emissions; or, the BAE to determine the magnitude of the resulting emissions increase. PSD applicability will be based on the highest emissions increase calculated in this way (i.e., the highest projected increase).

Reminder:

A2P = Actual to Potential applicability test

A2A = Actual to Projected Actual applicability test

A2A Recordkeeping and Reporting Requirements

Prior to beginning actual construction on a proposed project, a facility must record the following information:

- A description of the project;
- Identification of each affected emission unit;
- A description of the applicability test used; including,
 - The BAE;
 - The projected actual emissions;
 - The amount of excluded emissions;
 - The reason for excluding that amount; and,
 - Any netting calculations, if applicable.

The PSD regulations (i.e. 40 CFR 52.21(r)(6)) only require this information to be recorded if there is a "reasonable possibility" that the project may result in a significant emissions increase. Further, the PSD regulations only require this information to be submitted to the MDEQ for EUSGUs. However, the MDEQ's minor source permitting program – Rule 201 – requires this information to be submitted for all sources as part of a complete Permit to Install application before beginning actual construction on the proposed project.

After resuming normal operation following completion of the project, the PSD regulations also require the facility to monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that are emitted by any of the affected emission units. In addition, annual emissions, in tons per year, are required to be calculated at the end of each year following the date that normal operation resumes after completion of the project. These monitoring and emission calculation requirements shall continue for each year of the projection period.

For EUSGU's, a report of each affected emission unit's annual emissions must be submitted to the MDEQ within 60 days after the end of each year of the projection period. For non-EUSGU's, a report is only required for those years in which actual annual emissions exceed the BAE by more than the significance threshold and differ from the pre-construction projected emissions. Such a report for non-EUSGU's must include:

- The name, address and telephone number of the facility;
- The calculated annual emissions; and,
- Any other information the owner or operator wishes to include in the report (e.g., an explanation why the emissions differ from the projection).

All such information, whether it is required to be submitted to the MDEQ or not, is required to be maintained on site and made available for review upon request, by the MDEQ.

The circumstances that lead to the submittal of this report (i.e., actual emissions exceed BAE by more than the significant threshold and differ from the projection) do not automatically constitute a violation of PSD. There are many legitimate circumstances under which this could occur. The most obvious is that business growth exceeds the

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projected growth rate. In this case, the fact that business turns out to be better than expected is not a violation of PSD. The growth, if it had been accurately projected, would have resulted in excluded emissions and the conclusions of the original PSD applicability determination would not have changed. The submittal of this report will only trigger an evaluation of the circumstances to determine if a PSD violation may have occurred.

Permit Content

Facilities using the A2A will be required by permit conditions to conduct the monitoring and emission calculations, and to keep and maintain the records described above. The projected actual emissions will not be instituted as an enforceable permit requirement. However, it will likely find its way into the permit for informational purposes only.

EXAMPLES:

Following are several examples to help clarify the A2A. These examples are built on the boiler example used above to illustrate the A2P. The boiler emits NO_x at 75 pounds per hour and has consistently operated very near 7200 hours per year throughout the ten-year baseline look back period. The BAE is: 7200 hr/yr x 75 lb/hr x 1 ton/2000 lb = 270 tons/yr.

The proposed project will increase the hourly emission rate from 75 to 80 pounds per hour.

For all of the following examples, the first step, determining the projection period is the same. The proposed project increases the emission unit's potential to emit from 75 to 80 pounds per hour. Using the A2P, operation of the emission unit for the allowed 8760 hours per year would represent an emissions increase greater than the 40 ton per year significant threshold:

$$\begin{aligned} &8760 \text{ hr/yr} \times 80 \text{ lb/hr} \times 1 \text{ ton/2000 lb} = 350.4 \text{ tons/yr} \\ &\underline{- 7200 \text{ hr/yr} \times 75 \text{ lb/hr} \times 1 \text{ ton/2000 lb} = 270.0 \text{ tons/yr}} \\ &= 80.4 \text{ tons/yr} \end{aligned}$$

Because the potential emissions increase and full utilization would result in a significant emissions increase, the projection period must be ten years.

Example 1:**Step 2 – Develop an initial projection**

The company utilizes the consistent historical operating trend to project a continued boiler utilization, after the project, of 7200 hours per year. Documentation is provided showing, in addition to the past trend, that future natural gas contracts indicate the company is not intending any significant increases in boiler utilization. Further, internal company correspondence with its corporate headquarters demonstrates no growth is

Example 1 continued:

projected. Therefore, the initial projected actual emissions are:

$$7200 \text{ hr/yr} \times 80 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 288.0 \text{ tons/yr}$$

Step 3 – Adjustments to the initial projection

Continuous NO_x emission monitor records demonstrate that the emission unit does not generate any excess emissions during the few startups and shutdowns it undergoes each year. Further, no malfunctions have occurred in any of the past ten years. Therefore, no adjustments to the initial projected emissions are necessary.

Step 4 – Excluded emissions

Excluded emissions are those that are unrelated to the modification and were capable of being accommodated by the pre-modified emission unit. These are, generally, the level of emissions that would have been emitted anyway – without the modification. This boiler was capable of accommodating emissions of 75 pounds per hour. For this boiler, the first 75 pounds per hour at the projected level of capacity utilization are unrelated to the modification. Therefore, there are excludable emissions in the amount of:

$$7200 \text{ hr/yr} \times 75 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 270.0 \text{ tons/yr}$$

In this situation, the excludable emissions are the same as the BAE. In the examples to follow, this will not always be true.

Step 5 – Determine projected emissions increase

Since the excludable emissions equal the BAE, the projected increase is determined by:

$$288.0 \text{ tons/yr} - 270.0 \text{ tons/yr} = 18 \text{ tons/yr}$$

In this case, the proposed modification is less than the significant threshold and is not subject to PSD – netting is not required.

Example 2:**Step 2 – Develop an initial projection**

In this scenario, the company projects that their business will grow a total of five percent over the next ten years. They document their projection with copies of an internal report provided to their parent company and their parent company's stockholder prospectus,

Example 2 continued:

both showing a five percent growth over the next ten years for this division of the company.

The projected level of emissions is equal to:

$$7200 \text{ hr/yr} \times 1.05 = 7560 \text{ hr/yr}$$

$$7560 \text{ hr/yr} \times 80 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 302.4 \text{ tons/yr}$$

Step 3 – Adjustments to the initial projection

Continuous NO_x emission monitor records demonstrate that the emission unit does not generate any excess emissions during the few startups and shutdowns it undergoes each year. Further, no malfunctions have occurred in any of the past ten years. Therefore, no adjustments to the initial projected emissions are necessary.

Step 4 – Excluded emissions

Excluded emissions are those that are unrelated to the modification and were capable of being accommodated by the pre-modified emission unit. These are, generally, the level of emissions that would have been emitted anyway – without the modification. This boiler was capable of accommodating emissions of 75 pounds per hour. For this boiler, the first 75 pounds per hour at the projected level of capacity utilization are unrelated to the modification. Therefore, there are excludable emissions in the amount of:

$$7560 \text{ hr/yr} \times 75 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 283.5 \text{ tons/yr}$$

In this situation, the excludable emissions are greater than the BAE.

Step 5 – Determine projected emissions increase

Since the excludable emissions are greater than the BAE, the projected increase is determined by:

$$302.4 \text{ tons/yr} - 283.5 \text{ tons/yr} = 18.9 \text{ tons/yr}$$

In this case, the proposed modification is less than the significant threshold and is not subject to PSD – netting is not required.

Example 3:**Step 2 – Develop an initial projection**

In this scenario, the company projects that their business will grow a total of ten percent over the next ten years. They document their projection with copies of an internal report provided to their parent company and their parent company's stockholder prospectus,

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Example 3 continued:

both showing a ten percent growth over the next ten years for this division of the company. The documentation also shows that the expected growth is due to the introduction of a new product. The manufacture of the new product is the reason the boiler is being modified.

The projected level of emissions is equal to:

$$7200 \text{ hr/yr} \times 1.10 = 7920 \text{ hr/yr}$$

$$7920 \text{ hr/yr} \times 80 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 316.8 \text{ tons/yr}$$

Step 3 – Adjustments to the initial projection

Continuous NO_x emission monitor records demonstrate that the emission unit does not generate any excess emissions during the few startups and shutdowns it undergoes each year. Further, no malfunctions have occurred in any of the past ten years. Therefore, no adjustments to the initial projected emissions are necessary.

Step 4 – Excluded emissions

Excluded emissions are those that are unrelated to the modification and were capable of being accommodated by the pre-modified emission unit. These are, generally, the level of emissions that would have been emitted anyway – without the modification. Because the increased utilization rate is due to the modification, it cannot be excluded. Therefore, the excludable emissions are equal to the BAE in the amount of:

$$7200 \text{ hr/yr} \times 75 \text{ lb/hr} \times 1 \text{ ton}/2000 \text{ lb} = 270.0 \text{ tons/yr}$$

In this situation, the excludable emissions are equal to the BAE.

Step 5 – Determine projected emissions increase

Since the excludable emissions are equal to the BAE, the projected increase is determined by:

$$316.8 \text{ tons/yr} - 270.0 \text{ tons/yr} = 46.8 \text{ tons/yr}$$

In this case, the proposed modification results in a significant emissions increase. A netting analysis must be conducted to determine if it also results in a significant net emissions increase before determining whether or not it is subject to PSD.

Prepared by: Steve Zervas
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